

REMARKS

Claims 1-4, 6-7, 17 and 19-27 are presently pending in the application. Claims 1 and 19 were amended in this response. No new matter has been introduced by the amendments. Support for the amendments may be found in paragraphs [0026], [0030], and FIG. 2 of the present application. Entry and consideration of this Response are respectfully requested.

Claims 1-2, 4, 6-7, 17, 19-23 and 25-27 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Bonnedal* (U.S. Pat. No. 6,246,514) in view of Grubb (US patent 6,344,922). In light of the present amendments, Applicant respectfully traverses this rejection.

Under the present amendments, the claims recite a control method and apparatus for compensating changes in an SRS-Induced Power Exchange where at least two tilt control units operate at different speeds to set tilting of a spectrum of data signals in the optical data transmission path. A quicker operating tilt control unit, connected to at least one filling light source, measures a change in overall power in the optical data transmission path, where tilting is immediately compensated "by changing the power of at least one filling light source via said quicker operating tilt control unit; and returning the power of the at least one filling light source gradually in the direction of an original state existing before the change in overall power via a slower operating tilt control unit of said at least two tilt control units and at the same time adapting the tilting control provided by said at least one fiber amplifier via said slower operating tilt control unit." Under the claimed configuration, compensation for the tilting of the spectrum during the connection or disconnection of channels can be executed very quickly by providing a fast and a slow tilt control system in addition to the common tilting control of at least one fiber amplifier within the optical transmission path.

In contrast, Bonnedal teaches a method for controlling the output power using the gain of an optical amplifier. Control units 21 and 22 are disclosed as feed-forward and feedback control units for an optical amplifier, where the control units (21, 22) operate to control the gain or output power of the optical amplifier (col. 5, lines 19-67). The "feed-forward control" provides a "rough" adjustment while a "feedback control" for a "fine" adjustment of said optical amplifier (col. 3, lines 36-57). The output power is adjusted by controlling the output power of a pump laser (12) which is coupled to the optical amplifier (FIG. 5). Accordingly, Bonnedal discloses a "gain control method" for optical amplifiers that does not compensate rapid intensity changes

induced by the stimulated Raman Scattering within an optical transmission path having its own tilting control. Moreover, Bonnedal does not disclose a slower operating tilt control unit, which is used for controlling the tilting control in the fiber amplifier and control of a filling light source for supplying light energy to the optical data transmission path immediately after a change in overall power in the optical data transmission path has detected by a quicker operating tilt control unit.

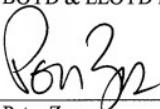
Grubb fails to solve the deficiencies of *Bonnedal*, discussed above. *Grubb* merely teaches an optical transmission system having a Raman amplifier, pumped by an optical pump signal. Unlike Bonnedal, Grubb discloses that the wavelength of the optical pump signal is selected such that the gain can be provided across the optical fiber transparent transmission wavelength range (1240 - 1650 nm for a silica based fiber; see col. 7, lines 29-42). Under Grubb, the transmission signal wavelength range is correlated to the pump wavelength range to allow multiple wavelength ranges to be transmitted in the optical system (col. 7, lines 42-55). However, Grubb also fails to teach or suggest a "compensating" rapid intensity changes within an optical transmission path consisting of at least one fiber amplifier having a tilting control. Moreover Grubb fails to disclose a filling light source for supplying light energy to an optical data transmission path in order to immediately compensate the tilting caused by the connection or disconnection of WDM channels via changing the power of the filling light source.

In light of the above, Applicant submits that the rejection under 35 U.S.C. §103 is overcome and should be withdrawn. As such, claims 1-4, 6-7, 17 and 19-27 are now believed to be distinguishable over cited documents. The Applicant respectfully requests withdrawal of the claim rejections and allowance of the application. If there are any additional fees that are due in connection with this application as a whole, the Commissioner is authorized to deduct those fees from Deposit Account No. 02-1818. If such a deduction is made, please indicate Attorney Docket No. 0112740-278 on the account statement.

Respectfully submitted,

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